

**Grain Yield From Wheat Variety Trials 2003-2004
Production Technology – Crops**

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Test Locations

As of July 12, the Oklahoma Agricultural Statistics Service estimated the wheat crop was 165.6 million bushels harvested from 4.6 million acres for an average yield of 36 bushels per acre. These are all down slightly from last year. Test weights were also quite good in those fields harvested without rainfall between maturity and harvest.

Production Season

The Oklahoma wheat crop got off to an excellent start with 58% planted by September 29 compared to 37% for the five year average. Fall forage growth was excellent where there was adequate moisture. In many areas of the state, little, if any rainfall fell from early October until December snow or, for some western areas even later. Some fields appeared to have dead wheat due to drought stress especially in southwest Oklahoma. Many locations had low temperatures in the single digits on January 6, 2004. The combination of low temperature and/or drought stress resulted in wheat forage turning brown. In most cases, the wheat was not dead and greened up once moisture was obtained and the right temperatures occur for growth.

Low temperatures on April 20 in the panhandle were near 20 F, killing many of the primary heads and reducing yields in both irrigated and dryland wheat.

Drought stress and heat in May probably reduced yields in some fields and definitely hastened harvest.

Harvest began earlier than normal and progressed across the state very rapidly. About June 15, rains started and any wheat not harvested by this time was difficult to harvest because of wet conditions.

Pest Problems

Greenbug, bird cherry-oat aphid, and/or army cutworm populations were high enough in many locations that fields were sprayed in December and January. Some locations had leaf rust, septoria leaf blotch, powdery mildew, or tan spot by early November. Septoria

and tan spot seemed to be the worst in fields with considerable residue on the soil surface.

Powdery mildew continued to be heavy in the spring on susceptible varieties, notably on Jagger and Jagalene where powdery mildew appeared in the head in some fields. Leaf rust and stripe rust appeared late in the season, but neither disease was thought to cause much yield reduction in Oklahoma.

Location of Trials

Data are reported for all trials planted except for Covington, Perkins and Goodwell dryland. Covington, a no-till site, had low pH and a cheat problem. A combination of wet soil at and after planting and spraying with Maverick when the wheat was too small resulted in poor stand. Goodwell dryland was too dry throughout the season and had very erratic yield from plot to plot. Perkins was grazed by cattle after it had headed.

Production Practices

The variety trials were all conventionally planted except Covington and Loyal which were no-till planted. The producer practices for weed control, fertilization, and insect control were applied to the variety trial. OSU did apply 50 pounds per acre of 18-46-0 in the seed furrow at planting. Seeding rates were 60 and 120 pounds per acre for grain and forage plus grain trials, respectively. Soil type, soil pH, and unique production conditions are noted on individual location tables.

New Varieties for 2003-2004

Varieties included in the trials for the first time were AgriPro Fannin and Overley. Overley is a very large-seeded new variety from Kansas State. Fannin was not quite winter hardy enough for the northern half of the state, especially when planted early and grazed. Deliver and Endurance were in the trials as OSU experimental lines in 2002-03 and released in 2004. Endurance is a very strong performer in a graze plus grain production system. Deliver is a high test weight, good milling and baking awnless variety applicable for grain production as well as forage systems.

Experimental Lines Included



Several OSU candidate cultivars that have potential for release in the next year or two were included in the trials. These were included to evaluate their capability at sites not normally used as test locations in the OSU wheat breeding program. Characteristics of the experimental lines are available by selecting candidate cultivars on the web at <http://www.wit.okstate.edu>.

New Feature for 2003-04

In previous years forage data had been collected from trials that were not grazed. This year the fall forage data was collected and then the fields were grazed until the first hollow stem stage of growth, followed by grain harvest. Revenue obtained from the combination of clipped forage and grain was estimated and details are given on tables for

Walters, Marshall, and Cherokee where this data was collected. It should also be noted that several more sites (Cherokee, Elk City, Gage, Lamont, Loyal, Marshall, and Walters) were grazed in 2003-04 than in previous years.

Additional Information on the Web

For information on disease resistance and other characteristics of all wheat varieties grown in Oklahoma, see the Wheat Variety Characteristic Chart under Variety Information on the web at <http://www.wit.okstate.edu>. From the above address you can also connect to the latest fall and full-season wheat forage production data.

Cooperation Acknowledged

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